GODDARD SPACE FLIGHT CENTER	**TASK ORDER** (Instructions and Distribution on Reverse)	PAGE 1 OF 1
1. CONTRACTOR: **SSAI**	2. CONTRACT NO.: **NNG12HP08C**	3. TASK/REVISION NO.: Task Order #056
4. JOB ORDER NO./PROJECT:	5. FLIGHT HARDWARE /SOFTWARE; CRITICAL GSA (IF, YES, OBTAIN BLOCK 16 CONCURRENCE): YES X NO	6. DESIGNATED FLIGHT ASSURANCE MGR.:

7. DESCRIPTION OF WORK TO BE PERFORMED (OBJECTIVES OR RESULTS DESIRED):

Ground-based Wind Lidar Studies (GLOW)/Atmospheric studies using Lidar, satellites, in-situ sensing and models/Airborne-based Wind Lidar Development (TWiLiTE)

8. TASK DOCUMENTATION REQUIREMENTS/DELIVERABLE ITEMS:

(See Attached Task Order)

9. PERFORMANCE/MILESTONE SCHEDULE:

May 1, 2015 – April 30, 2016

10. QUALITY ASSURANCE REQUIREMENTS:

N/A

11. TRAVEL, MATERIALS, ETC., KNOWN TO BE REQUIRED:

(See Attached Task Order)

12. OTHER (FUNDING, NTE, HOURS, ETC.):

Total Cost:

Fee:

Total Price: $173,272

13. TASK ORIGINATOR/MONITOR/CODE/PHONE:

Bruce Gentry/612.0/4- 6271

14. BRANCH APPROVAL:	15. DIVISION CONCURRENCE:

16. CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE:

Joel Susskind

17. CONTRACTOR SIGNATURE:

18. THIS TASK ORDER IS ISSUED PURSUANT TO THE TERMS OF THE CONTRACT.

Ayana Briscoe 5/20/15

CONTRACTING OFFICER'S SIGNATURE/ DATE Ayana A. Briscoe Contracting Officer

Ayana A. Briscoe

TYPED OR PRINTED NAME

Science Systems and Applications, Inc.
NNG12HP08C
Task Order Statement of Work

Task Order Number: CY4_056_Rev0
Task Order Title: Ground-based Wind Lidar Studies (GLOW)/Atmospheric studies using Lidar, satellites, in-situ sensing and models/Airborne-based Wind Lidar Development (TWiLiTE)

1.0 Task Monitor (TM):

Name:	Bruce Gentry
Organization:	612: Mesoscale Atmospheric Processes Laboratory
Email Address:	bruce.m.gentry@nasa.gov

2.0 Description of Work to be Performed

Subtask 56a) Ground-based Wind Lidar Studies (GLOW)

- Support the design, construction, testing and utilization of ground-based Doppler lidar instrumentation for studies in atmospheric physics relevant to Earth Science Enterprise Strategic Goals.
- Generate and use wind profile data obtained from the GLOW mobile ground-based Doppler lidar system in order to better understand the dynamics of the atmosphere. This includes developing measurement techniques, instruments, and analysis algorithms and applying them to problems in atmospheric dynamics and turbulence.
- Support the design, planning and execution of field missions to gather wind lidar data for the following purposes:
  - Studies of atmospheric dynamics, transport and exchange
  - Demonstration of new instruments and related technologies
  - Calibration/validation of spaceborne lidar wind profiles.
- Develop new methods for the retrieval of atmospheric state variables such as wind velocity and temperature structure within the troposphere and stratosphere using lidar and other instruments.
- Combine the wind profile data with other instrument measurements or data products to obtain additional information such as sensible and latent heat fluxes.
- Develop algorithms and analyze data sets from field missions, participate in their scientific and technical interpretation, collaborate with other members of relevant science teams and publish the results of these investigations.

Subtask 56b) Airborne-based Wind Lidar Studies (TWiLiTE)

- Support the design, construction, testing and utilization of new airborne-based Doppler lidar instruments for studies in atmospheric physics relevant to Earth Science Strategic Goals.
- Generate and use wind profile data obtained from the TWiLiTE airborne-based Doppler lidar systems in order to better understand the dynamics of the atmosphere. This includes developing measurement techniques, instruments, and analysis algorithms and applying them to problems in atmospheric dynamics and turbulence.
- Support the design, planning and execution of field missions to gather wind lidar data for the following purposes:

- Studies of atmospheric dynamics, transport and exchange
- Demonstration of new instruments and related technologies
- Calibration/validation of spaceborne lidar wind profiles.

- Develop new methods for the retrieval of atmospheric state variables such as wind velocity and temperature structure within the troposphere and stratosphere using lidar and other instruments.
- Combine the wind profile data with other instrument measurements or data products to obtain additional information such as sensible and latent heat fluxes.

- Develop algorithms and analyze data sets from field missions, participate in their scientific and technical interpretation, collaborate with other members of relevant science teams and publish the results of these investigations.

3.0 Special Requirements

None

4.0 Performance/Milestone Schedule

The SAS Contract Year 4 POP is May 01, 2015 - April 30, 2016

5.0 Deliverables/Reporting Requirements

- Contributions to scientific publications, workshops/conferences/symposia, both oral presentations and written contributions.
- Quarterly and annual reports.
- Delivery and availability of quality-controlled datasets and web-based material.
- Software and hardware documentation.
- Reports documenting participation in conferences, workshops, symposia, working groups and field activities.

6.0 Other Information Needed for Performance of Task

Travel for 2.0 person months from sub task a) from June 1 to July 15, 2015 to support the deployment of GLOW in Greensburg, KS during the PECAN field experiment. This will include 2 round trip air fares for rotation of people during the experiment.

7.0 Data Rights

N/A

8.0 Safety

Staff on this task shall comply with federal, state, local, and center safety regulations. This shall be accomplished through management emphasis, technical training, and personal responsibility.

Staff shall participate in safety orientation and training in accordance with the contract Safety and Health Plan, and work within the requirements of that plan.

9.0 Risk

Contractor shall provide ongoing risk assessment and mitigation in performance of the Task Order. Priorities shall be re-evaluated as appropriate with the TM. Cost and schedule performance shall be assessed on a regular basis (no less frequently than monthly) and significant variations discussed and acted on in consultation with the TM and COR.

10.0 Proposed Cost and Fixed Fee

In accordance with Paragraph B.8 of the contract, propose the Cost and Fixed Fee amount.